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The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* KLAUS SCHOELLER  
and ROLF GERVELMEYER

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Appeal 2008-2850  
Application 10/527,007  
Technology Center 2800

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Decided: September 12, 2008

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Before THOMAS A. WALTZ, CATHERINE Q. TIMM, and  
KAREN M. HASTINGS, *Administrative Patent Judges*.

WALTZ, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on an appeal under 35 U.S.C. § 134 from the Primary Examiner's refusal to allow claims 1, 2, and 4-15, as amended subsequent to the final rejection (*see* the Amendment dated Jan. 19, 2007, entered as per the Advisory Action dated Feb. 2, 2007). Claims 1, 2, and 4-

15 are the only claims pending in this application. We have jurisdiction pursuant to 35 U.S.C. § 6(b).

According to Appellants, the invention is directed to a high pressure discharge lamp comprising an inner vessel with a discharge chamber, at least two electrodes extending into the discharge chamber, and an outer bulb surrounding the inner vessel (App. Br. 6). Further details of the invention may be gleaned from illustrative independent claim 1, reproduced below:

1. A high-pressure discharge lamp comprising:
  - an inner vessel with a discharge chamber,
  - with at least two electrodes extending into the discharge chamber,
  - and
  - an outer bulb surrounding the inner vessel, the outer bulb comprising neodymium oxide, the neodymium oxide content being substantially 2 to 20% by weight with respect to the total weight of the outer bulb,
- wherein the discharge chamber contains an ionizable filling comprising:
  - at least one rare gas,
  - 0 mg to 10 mg of mercury, and
  - a metal halide mixture comprising:
    - 40 to 80% by weight of sodium halide,
    - 25 to 55% by weight of scandium halide,
    - 1 to 15% by weight of indium halide, and
    - 1 to 34% by weight of thallium halide.

The Examiner has relied on the following prior art as evidence of obviousness:

Akutsu	4,047,069	Sep. 6, 1977
Muto	6,670,765 B2	Dec. 30, 2003

#### ISSUE ON APPEAL

Claims 1, 2, and 4-15 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Muto in view of Akutsu (Ans. 3). This is the sole ground of rejection sought to be reviewed in this appeal (App. Br. 8).

Appellants contend that Akutsu discloses two embodiments, one with an outer bulb containing neodymium, one with an outer bulb coated with neodymium oxide and phosphor powders, and neither embodiment discloses or suggests the bulb containing neodymium oxide as required by claims 1 and 9 (App. Br. 10).

Appellants contend that the coating of Akutsu is a second element different from, and additional to, the outer bulb (App. Br. 11-12).

Appellants also contend that Akutsu is silent regarding the claimed amount of 2 to 20% neodymium oxide (App. Br. 12-13).

Appellants contend that the Examiner's claim construction is in error, and that the bulb disclosed by Akutsu is merely hard glass with phosphor and neodymium oxide as additional and separate elements coating the bulb (Reply Br. 3).

The Examiner contends that "the outer bulb comprising neodymium oxide," as recited in claims 1 and 9, reasonably may be construed as including a bulb having a coating of neodymium oxide (Ans. 8-9). The

Examiner further contends that the amount of neodymium oxide would have been readily optimized by one of ordinary skill in the art (Ans. 9).

Accordingly, we determine the following issue presented from the record in this appeal: have Appellants established that the Examiner committed reversible error in construing claims 1 and 9 as including an outer bulb having a coating of neodymium oxide? We answer this question in the negative and thus AFFIRM the sole ground of rejection in this appeal essentially for the reasons stated in the Answer, as well as those reasons set forth below.

#### OPINION

The Examiner finds that Muto discloses every limitation of the claims except the limitation that “the outer bulb comprises neodymium oxide” at an amount of 2-20% by weight (Ans. 3-4). Appellants do not dispute any of the findings from Muto (*see* App. Br. 10).

The Examiner further finds that Akutsu discloses a discharge lamp with an outer bulb that contains neodymium, with the teaching that the neodymium increases light transmissivity (Ans. 4). Specifically, we determine that Akutsu teaches that phosphor emission peak ratios could be varied “by using an outer bulb containing neodymium, by coating [the inside surface of] the outer bulb with neodymium oxide mixed with phosphor powder” (Akutsu, col. 3, ll. 45-51; *see* App. Br. 10). The Examiner concludes that it would have been obvious to one of ordinary skill in this art at the time of the invention to use workable or optimal amounts of neodymium oxide in the outer bulb of the Muto discharge lamp to increase light transmissivity, as taught by Akutsu (Ans. 4).

Accordingly, as discussed above, the dispositive issue is a claim construction issue, namely, does the claimed limitation “the outer bulb comprising neodymium oxide” include an outer bulb with an inner surface coated with neodymium oxide (Ans. 8-9; Reply Br. 2-3). It is implicit in our review of the Examiner’s obviousness analysis that the claim must first have been correctly construed to define the scope and meaning of each contested limitation. *See Gechter v. Davidson*, 116 F.3d 1454, 1457, 1460 n.3 (Fed. Cir. 1997). During *ex parte* prosecution, the Patent Office applies to the verbiage of the proposed claims the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definition or otherwise that may be afforded by the written description in the specification. *See In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997). “[T]he specification ‘is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.’” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005)(en banc)(quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). The Patent Office should only limit a claim to a narrow embodiment based on an express disclaimer of a broader definition. *See In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004). As held by our reviewing court in *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004):

Giving claims their broadest reasonable construction “serves the public interest by reducing the possibility that claims, finally allowed, will be given broader scope than is justified.” *Yamamoto*, 740 F.2d at 1571; *accord Hyatt*, 211 F.3d at 1372; *In re Zletz*, 893 F.2d 319, 322 [13 USPQ2d 1320](Fed. Cir. 1989) (“An essential purpose of patent examination is to

fashion claims that are precise, clear, correct, and unambiguous. Only in this way can uncertainties of claim scope be removed, as much as possible, during the administrative process.”).

Construing claims broadly during prosecution is not unfair to the applicant (or, in this case, the patentee), because the applicant has the opportunity to amend the claims to obtain more precise claim coverage. *See Yamamoto*, 740 F.2d at 1571-72 (“Applicants’ interests are not impaired since they are not foreclosed from obtaining appropriate coverage for their invention with express claim language. An applicant’s ability to amend his claims to avoid cited prior art distinguishes proceedings before the PTO from proceedings in federal district courts on issued patents. When an application is pending in the PTO, the applicant has the ability to correct errors in claim language and adjust the scope of claim protection as needed.”); *Zletz*, 893 F.2d at 321 (“[D]uring patent prosecution when claims can be amended, ambiguities should be recognized, scope and breadth of language explored, and clarification imposed.”); *Hyatt*, 211 F.3d at 1372.

Therefore, we must construe the disputed term “the outer bulb comprising neodymium oxide” as broadly as reasonably possible, as understood by one of ordinary skill in the art, and in light of the Specification, while not limiting this term to any narrow preferred embodiments or examples unless any broader meaning or scope was expressly disclaimed by Appellants. We determine that Appellants’ Specification discloses the following:

In a further preferred embodiment of the invention, the outer bulb comprises neodymium, preferably neodymium oxide and cerium, preferably cerium oxide. Particularly advantageous is an outer bulb glass of quartz glass doped with neodymium,

for example neodymium oxide and cerium, for example cerium oxide. Spec. 5:6-9.<sup>1</sup>

Accordingly, we determine that the broadest reasonable construction of the term “the outer bulb comprising neodymium oxide” in its ordinary usage would include any outer bulb structure, including the outer bulb per se, the outer bulb doped with various materials, and the outer bulb with coatings on the inner and/or outer surface of the bulb, and is not limited by any definition or guidance in Appellants’ Specification. We determine that the outer bulb would have been understood by one of ordinary skill in this art to include the bulb per se, the bulb doped with various elements, or the bulb including any coating, since a glazed or coated bulb would still have been considered a bulb. We determine that limiting the disputed term to neodymium oxide doped quartz glass would be limiting the term to the *preferred* embodiment as set forth above in the quote from Appellants’ Specification, and Appellants have not expressly disclaimed a broader definition. Additionally, Appellants have had the opportunity to amend the claims to achieve more precise claim coverage, i.e., to limit the claim to an outer bulb of quartz glass doped with neodymium oxide, but did not do so. See *In re Icon Health and Fitness, Inc.*, 496 F.3d 1374, 1379 (Fed. Cir. 2007) (“Because Icon could have amended its claims to more clearly define ‘stably retain’ and did not do so, it now must submit to the Board’s interpretation.”).

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<sup>1</sup> We note that Appellants mistakenly argue that their invention is an outer bulb glass of quartz glass doped with neodymium and cite the Specification at page 5, line 8 (App. Br. 12). Since all claims on appeal are limited to neodymium *oxide*, we presume Appellants meant neodymium oxide doped quartz glass is employed as the outer bulb in claims 1 and 9.

In view of our claim construction discussed above, we agree with the Examiner (Ans. 4) that Akutsu teaches an outer bulb comprising neodymium oxide with its attendant advantages of greatly improved color rendition (col. 1, ll. 38-39) and light transmissivity (Fig. 2). Accordingly, we also agree with the Examiner that it would have been obvious to one of ordinary skill in this art to use the outer bulb comprising neodymium oxide for the benefits taught by Akutsu in place of the outer bulb structure disclosed by Muto (Ans. 4).<sup>2</sup> Therefore, we sustain the sole ground of rejection presented for review in this appeal.

With regard to the amount of neodymium oxide used with the outer bulb (App. Br. 12-13), we agree with the Examiner (Ans. 4 and 9) that determination of the amount of neodymium oxide to be mixed with the phosphors to achieve the benefits taught by Akutsu (col. 3, l. 25 *et seq.*) would have been well within the ordinary skill in the art. *See In re Woodruff*, 919 F.2d 1575, 1578 (Fed. Cir. 1990), and cases cited therein.

For the foregoing reasons and those stated in the Answer, the decision of the Examiner is affirmed.

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<sup>2</sup> We note that the light emitting tube 1 disclosed by Muto, corresponding to the outer bulb of the claims and Akutsu, can be made of silica glass (Muto, col. 6, l. 64).

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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